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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/726,461	12/03/2003	Paul G. Wilson	24170759.2	5873

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EXAMINER

BOYD, JENNIFER A

ART UNIT PAPER NUMBER

1771

DATE MAILED: 06/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/726,461	Applicant(s) WILSON ET AL.	
	Examiner Jennifer A Boyd	Art Unit 1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 December 2003.
 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-50 is/are pending in the application.
 4a) Of the above claim(s) 26-50 is/are withdrawn from consideration.
 5) ☐ Claim(s) _____ is/are allowed.
 6) ☒ Claim(s) 1-25 is/are rejected.
 7) ☐ Claim(s) _____ is/are objected to.
 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>3/27/04</u> . | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1 - 25, drawn to a fiber material, classified in class 442, subclass 327+.
 - II. Claims 26 - 41, drawn to a method for manufacturing fiber material, classified in class 162, subclass various.
 - III. Claims 42 - 50, drawn to a roofing shingle, classified in class 52, subclass 518+.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions II and I are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the product as claimed can be made by another and materially different process such as by using an electric field while falling freely in a column to create a directionally aligned material.
3. Inventions I and II are related as mutually exclusive species in an intermediate-final product relationship. Distinctness is proven for claims in this relationship if the intermediate product is useful to make other than the final product (MPEP § 806.04(b), 3rd paragraph), and the species are patentably distinct (MPEP § 806.04(h)). In the instant case, the intermediate product is deemed to be useful as a filter and the inventions are deemed patentably distinct since there is nothing on this record to show them to be obvious variants. Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit

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on the record that this is the case. In either instance, if the examiner finds one of the inventions anticipated by the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

4. Inventions II and III are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the roofing shingle is made by another materially different process; the process of Group II is for the manufacturing of the article of Group I.

5. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

6. During a telephone conversation with James Ortega on May 18, 2004 a provisional election was made with traverse to prosecute the invention of Group I, claims 1- 25. Affirmation of this election must be made by applicant in replying to this Office action. Claims 26 – 50 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

7. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the

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application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Objections

8. Claim 19 is objected to because of the following informalities: please amend “op” to “of” in line 5. Appropriate correction is required.

Claim Rejections - 35 USC § 112

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. Claims 12 – 13 and 22 – 23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

11. Claims 12 and 22 have the limitation that the “fiber material has a tear-strength under the Elmendorf Tear Test greater than a single layer fiber material having a substantially equal total thickness and comprising only randomly dispersed similar fibers”. Is the single layer fiber material being claimed? The Examiner is unable to compare the data tear-strength under the Elmendorf Tear Test because no numerical comparison is being made. It is suggested by the Examiner to give a Elmendorf Tear Test quantitative value rather basing the value of the fiber material as a comparative non-numerical value. Additionally, in claims 13 and 23, the Examiner is unable to compare the weight of the fiber material and the single layer fiber material because no numerical comparison is being made. It is suggested by the Examiner to give the weight of

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the fiber material rather than basing the value on a non-numerical comparison with a single layer fiber material of an unknown weight. For the purposes of Examination at this time, the Examiner will assume that the tear-strength is inherently higher than a single layer fiber material and the fiber material has a total weight less than the total weight of the single layer fiber material.

Claim Rejections - 35 USC § 102

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

13. Claims 1 – 4, 7 – 10, 14 – 15, 20 and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Katz (US 4,668,325).

Katz is directed to a composite non-distortable needlepoint canvas (Title).

As to claim 1, Katz teaches a primary laminate layer 22a comprised of an open-mesh woven needlepoint fabric having a uniform pattern of mesh apertures (column 8, lines 35 – 45). Katz teaches that the secondary laminate layer 28 is a non-woven, random spun synthetic fiber material comprising polyester and/or polyamide fibers (column 8, lines 45 – 55). The parallel nature of the set of warp yarns and the set of weft yarns of the mesh can both be considered two sets of “directionally aligned fibers in linear formations” in one layer. The secondary laminate made of non-woven material is equated to Applicant’s “second layer”.

As to claims 2 and 3, Katz shows in Figure 4 that the open mesh has fibers in crossing linear formations.

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As to claim 4, Katz teaches that the non-woven fibers are synthetic polymer fibers (column 8, lines 35 – 65) and the primary laminate layer comprises cotton threads (column 9, lines 30 – 40).

As to claim 7, Katz teaches that a layer of adhesive may be applied in a printed fashion or sprayed onto the secondary layer 28 before it is interfaced with the primary layer 22. Also the primary layer may be coated or impregnated to achieve the desired degree of stiffness (column 9, lines 1 – 30).

As to claim 8, Katz teaches in Example 1 that the primary layer has a weight of 4.0 ounces per square yard, the coated primary layer has a weight of 5.0 ounces per square yard and the resulting composite has a weight of 5.5 ounces per square yard (column 9, lines 30 – 68). Therefore, the adhesive weighs 1.0 ounces per square yard and the resulting composite would have about 18% binder by weight.

As to claims 9 and 10, Katz teaches that the adhesive can be latex-based or an acrylic adhesive (column 8, lines 55 – 65). Katz additionally notes that the impregnating fluid may be a vinyl/acrylic copolymer and may be in the form of an emulsion (column 9, lines 20 – 25).

As to claim 14, Katz teaches a primary laminate layer 22a comprised of an open-mesh woven needlepoint fabric having a uniform pattern of mesh apertures (column 8, lines 35 – 45). Katz teaches that the secondary laminate layer 28 is a non-woven, random spun synthetic fiber material comprising polyester and/or polyamide fibers (column 8, lines 45 – 55). The parallel nature of the set of warp yarns and the set of weft yarns of the mesh can both be considered two sets of “directionally aligned fibers in linear formations” in one layer. The secondary laminate made of non-woven material is equated to Applicant’s “second layer”. Katz

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teaches that a layer of adhesive may be applied in a printed fashion or sprayed onto the secondary layer 28 before it is interfaced with the primary layer 22. Also the primary layer may be coated or impregnated to achieve the desired degree of stiffness (column 9, lines 1 – 30).

As to claim 15, Katz teaches that the non-woven fibers are synthetic polymer fibers (column 8, lines 35 – 65) and the primary laminate layer comprises cotton threads (column 9, lines 30 – 40). As to claims 18 and 19, Katz teaches that the adhesive can be latex-based or an acrylic adhesive (column 8, lines 55 – 65). Katz additionally notes that the impregnating fluid may be a vinyl/acrylic copolymer and may be in the form of an emulsion (column 9, lines 20 – 25).

As to claim 20, it should be noted that the parallel nature of the set of warp yarns and the set of weft yarns of the mesh can both be considered two sets of “directionally aligned fibers in linear formations” in one layer. The warp yarns are in one predetermined direction and the weft yarns are in another predetermined direction.

As to claim 25, Katz teaches in Example 1 that the primary layer has a weight of 4.0 ounces per square yard, the coated primary layer has a weight of 5.0 ounces per square yard and the resulting composite has a weight of 5.5 ounces per square yard (column 9, lines 30 – 68). Therefore, the adhesive weighs 1.0 ounces per square yard and the resulting composite would have about 18% binder by weight.

Claim Rejections - 35 USC § 103

14. Claims 12 – 13 and 22 – 23 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Katz (US 4,668,325).

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As to claims 12 – 13 and 22 – 23, although Katz does not explicitly teach the claimed the fiber material has a tear strength under the Elmendorf Tear Test greater than a single layer fiber material having a substantially equal total thickness and comprising only randomly dispersed similar fibers as required by claims 12 and 22 and the fiber material has a total weight less than a total weight of the single layer fiber material as required by claims 13 and 23, it is reasonable to presume that the fiber material has a tear strength under the Elmendorf Tear Test greater than a single layer fiber material having a substantially equal total thickness and comprising only randomly dispersed similar fibers as required by claims 12 and 22 and the fiber material has a total weight less than a total weight of the single layer fiber material as required by claims 13 and 23 is inherent to Katz. Support for said presumption is found in the use of like materials (i.e. a fiber material with a first layer of directionally aligned cotton fibers and a second layer of randomly dispersed polymer fibers adhered together with an acrylic adhesive) which would result in the claimed properties. The burden is upon the Applicant to prove otherwise. *In re Fitzgerald* 205 USPQ 594. In addition, the presently claimed properties would obviously have been present once the Katz product is provided. Note *In re Best*, 195 USPQ at 433, footnote 4 (CCPA 1977).

Claim Rejections - 35 USC § 103

15. Claims 5 – 6, 11, 16 – 17, 21 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katz (US 4,668,325).

As to claims 5 – 6, 11, 16 – 17, 21 and 24, Katz discloses the claimed invention except for the fibers have a diameter from about 0.00001 inches to 0.0300 inches as required by claims

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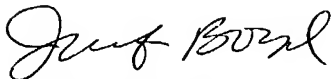
5 and 16, the fibers have a length of about 0.10 inches to about 1.5 inches as required by claims 6 and 17, the first layer comprises a thickness of about 50% of the total thickness of the fiber material as required by claims 11 and 21 and the first and second pluralities of fibers are both horizontally dispersed to a substantially uniform thickness as required by claim 24. It should be noted that fiber diameter, fiber length, layer thickness and uniform thickness are result effective variables. For example, as the fiber diameter and length increases, the material becomes stronger and less flexible. As the thickness of the first layer increases, the material becomes stiffer. As the thickness becomes more uniform, the material has superior mechanical properties. It would have been obvious to one having ordinary skill in the art at the time the invention was made to create a layer having fibers with a diameter from about 0.00001 inches to 0.0300 inches as required by claims 5 and 16, the fibers have a length of about 0.10 inches to about 1.5 inches as required by claims 6 and 17, the first layer comprises a thickness of about 50% of the total thickness of the fiber material as required by claims 11 and 21 and the first and second pluralities of fibers are both horizontally dispersed to a substantially uniform thickness as required by claim 24 since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). In the present invention, one would have been motivated to optimize the fiber diameter and length and the layer thickness and uniformity in order to create a strong and flexible composite.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer A Boyd whose telephone number is 571-272-1473. The examiner can normally be reached on Monday thru Friday (8:30am - 6:00pm).


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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jennifer Boyd
June 20, 2004


Ula C. Ruddock
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